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Source: Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility, Design and Plant Patents |

Terms: patno=5936577 (Edit Search)

953666 (08) 5936577 August 10, 1999

#### UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

#### 5936577

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#### Link to Claims Section

August 10, 1999

## Adaptive antenna

REISSUE: Reissue Application filed Aug. 9, 2001 (O.G. Jan. 15, 2002) Ex. Gp.: 3662; Re. S.N. 09/924,501, (O.G. January 15, 2002)

**APPL-NO:** 953666 (08)

FILED-DATE: October 17, 1997

GRANTED-DATE: August 10, 1999

CORE TERMS: beam, antenna, sector, exciting, width, adaptive, receiving antenna, transmitting antenna, station, transmission ...

#### **ENGLISH-ABST:**

Features of an adaptive antenna are a controlling portion 11 as a method for detecting the communication amount of each beam and an antenna controlling portion 7 as a controlling method for controlling the pattern of each beam corresponding to information of the detected communication amount. In particular, an exciting weight of each antenna element is controlled corresponding to the detected communication amount and thereby the pattern of each beam is controlled. Thus, the communication amounts of individual beams can be flexibly well-balanced. Consequently, the communication capacity of the base station can be effectively used.

Source: Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility, Design and Plant

Patents i

Terms: patno=5936577 (Edit Search)

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Segments: Appl-no, English-abst, Granted-date, Reissue Date/Time: Thursday, April 22, 2004 - 10:07 AM EDT

1/1 PLUSPAT - ©QUESTEL-ORBIT - image

#### Patent Number:

US5936577 A 19990810 [US5936577]

### Title:

(A) Adaptive antenna

## Patent Assignee:

(A) TOKYO SHIBAURA ELECTRIC CO (JP)

## Patent Assignee:

Kabushiki Kaisha Toshiba, Kawasaki [JP]

## Inventor(s):

(A) SHOKI HIROKI (JP); MUKAI MANABU (JP); YOKOI TOKIHIKO (JP)

## **Application Nbr:**

US95366697 19971017 [1997US-0953666]

## **Priority Details:**

JP27624996 19961018 [1996JP-0276249]

# Intl Patent Class:

(A) H01Q-003/22 H04Q-007/00

#### **EPO ECLA Class:**

H01Q-003/26C H01Q-025/00

## **US Patent Class:**

ORIGINAL (O): 342373000; CROSS-REFERENCE (X): 370339000 455562100

## Document Type:

Corresponding document

#### Citations:

US5548813; US5596329; US5734345; US5754139; US5815116; EP0595247; WO9409568; WO9509490; WO9629836 Simon C. Swales, et al., "The Performance Enhancement of Multibeam Adaptive Base-Station Antennas For Cellular Land Mobile Radio Systems", IEEE Transactions on Vehicular Technology, vol. 39, No. 1, Feb. 1990, pp. 56-67.

Mitsuhiko Mizuno, et al., Electronics & Communications in Japan, vol. 77,

No. 2, pp. 48-58, Feb. 02, 1994, "Application of Adaptive Array Antennas to Radio Communications".

# **Publication Stage:**

(A) United States patent

#### Abstract:

Features of an adaptive antenna are a controlling portion 11 as a method for detecting the communication amount of each beam and an antenna controlling portion 7 as a controlling method for controlling the pattern of each beam corresponding to information of the detected communication amount. In particular, an exciting weight of each antenna element is controlled corresponding to the detected communication amount and thereby the pattern of each beam is controlled. Thus, the communication amounts of individual beams can be flexibly well-balanced. Consequently, the communication capacity of the base station can be effectively used.

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#### Patent Number:

US5936577 A 19990810 [US5936577]

## **Application Number:**

US95366697 19971017 [1997US-0953666]

#### Action Taken:

20010410 US/CC-A CERTIFICATE OF CORRECTION

20020115 US/RF-A REISSUE APPLICATION FILED EFFECTIVE DATE: 20010809

#### **Update Code:**

2003-22

1/1 CRXX - @CLAIMS/RRX

#### Patent Number:

5,936,577 A 19990810 [US5936577]

# Patent Assignee:

Toshiba Corp JP

#### **Actions:**

20010410 CERTIFICATE OF CORRECTION

20010809 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20020115
REISSUE REQUEST NUMBER: 09/924501
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 3662

Reissue Patent Number:

## Query/Command: FILE INPADOC

1/1 INPADOC - @INPADOC

#### Patent Number:

US 5936577 A 19990810 [US5936577]

## Title:

ADAPTIVE ANTENNA

## Inventor(s):

SHOKI HIROKI [JP]; MUKAI MANABU [JP]; YOKOI TOKIHIKO [JP]

## Patent Assignee (Words):

TOKYO SHIBAURA ELECTRIC CO [JP]

## **Application Details:**

US 953666/97-A 19971017 [1997US-0953666]

## **Priority Details:**

JP 276249/96-A 19961018 [1996JP-0276249]

## Intl. Patent Class.:

H01Q-003/22; H04Q-007/00

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